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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/702,469	11/07/2003	Sang Chul Yoon	P23878	8288

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EXAMINER	
RODRIGUEZ, PAUL L	

ART UNIT	PAPER NUMBER
2125	

DATE MAILED: 08/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/702,469	YOON ET AL.	
	Examiner	Art Unit	
	Paul L. Rodriguez	2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 June 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The amendment filed 6/20/05 has been received and considered. Claims 1-15 are presented for examination.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Takai et al (U.S. Pub 2002/0029096). The claimed invention reads on Takai et al as follows:

Takai et al discloses (claim 1, 9, 15) a central control system (figure 4) that controls multiple air conditioners (paragraph 14, 15) including at least one outdoor device (reference number 301) and a plurality of indoor devices (paragraph 26), said central control system comprising a central controller (reference number 100) connected to the multiple air conditioners through a dedicated line (reference number 401), for transmitting and receiving signals based on an air conditioner communication protocol (paragraph 28), to control the multiple air conditioners (paragraph 27, 30, 31, 49), the central controller being connected to an external Internet network (Figure 4), for transmitting and receiving signals based on an Ethernet communication protocol (paragraph 47-49) and to receive a control command for the multiple air conditioners (paragraph 27, 49), and a protocol converter that performs a communication

protocol conversion of a signal (paragraph 47-49, paragraph 48 "...100 provided with a web browser...", engine 120, driver 130 and reference number 200-203 reads on protocol converter), whereby the control command input at a remote location can be transmitted to the multiple air conditioners through the Internet network (paragraph 27, 47-49), wherein the central controller transmits signals to and receives signals from the protocol converter using Ethernet communication protocol (paragraph 47-49) and the protocol converter converts signals between Ethernet communication protocol and the air conditioner communication protocol (paragraph 47-49, because there are numerous elements found in the data conversion path, the Examiner considers each element as part of the "protocol converter". The browser in 100 converts Internet protocol to usable format for the computer system 100, the engine formats a signal for the applications, the device driver converts for proper transmission on path 400 to element 200, 202 performs conversion from USB to PAC format as a whole, the Examiner considers this to read on a protocol converter), (claim 2, 10) wherein the central controller comprises a key input device that receives the control command associated with the multiple air conditioners (reference number 704, 705, paragraph 28) and an output device that outputs control conditions of the multiple air conditioners operated according to the control command (reference number 706, 100, 700-702), (claim 3, 11) wherein the central controller comprises: a control program driver that drives a control program accessible by a GUI (Graphic User Interface) for controlling the multiple air conditioners (figure 2, paragraph 40, figure 3, paragraph 43, 44, 47), (claim 4, 12) wherein the central controller comprises a control program transmitter that transmits the control program by downloading through an Internet browser by a remote controller in response to a request from the remote controller received through the Internet network (paragraph 48, 49),

(claim 5, 13) wherein the central controller comprises a signal storage device that stores the control command received through the Internet network (paragraph 47), an Internet data storage device that stores data for accessing the Internet network and IP address data (paragraph 47-49) and a controller that controls the flow of signals transmitted and received through the Internet network, and controls the protocol converter for performing a communication protocol conversion of a signal (paragraph 28, 29, 31), (claim 6) wherein the protocol converter is connected by a cable to the central controller through a serial port of the central controller (paragraph 28, USB), (claim 7) a method of operating a central control system for multiple air conditioners (paragraph 14, 15, 27, 49) comprising receiving by a central controller a control command for the multiple air conditioners that is transmitted from a remote controller over an Internet network (paragraph 47-49), transmitting by the central controller, the control command to a protocol converter using an Ethernet communication protocol (paragraph 48, because the command is received with a browser, Ethernet protocol is used/anticipated), converting by the protocol converter the received control command into a control command based on an air conditioner communication protocol (paragraph 28, 29, 31), transmitting the control command based on the air conditioner communication protocol to the multiple air conditioners (paragraph 28-31, 40), performing a control operation of the multiple air conditioners in response to the control command based on the air conditioner communication protocol (paragraph 26-29, 31, 49) and transmitting data representing control conditions of the multiple air conditioners to the remote controller over the Internet network (paragraph 47, 48), (claim 8) further comprising converting the control condition data into control condition data based on an Ethernet communication protocol prior to transmission over the Internet network (paragraph 47, 48).

Examiner would like to point out that any reference to specific figures, columns and lines should not be considered limiting in any way, the entire reference is considered to provide disclosure relating to the claimed invention.

4. Claims 1-3, 5, 7-11 13 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Meyer (U.S. Pat 6,157,943). The claimed invention reads on Meyer as follows:

Meyer discloses (claim 1, 9, 15) a central control system (figure 1) that controls multiple air conditioners including at least one outdoor device and a plurality of indoor devices (reference number 18, 23-26), said central control system comprising a central controller (reference number 33) connected to the multiple air conditioners through a dedicated line (N1), for transmitting and receiving signals based on an air conditioner communication protocol (col. 4 lines 19-39), to control the multiple air conditioners (col. 3 lines 50-60), the central controller being connected to an external Internet network (col. 4 lines 8-18), for transmitting and receiving signals based on an Ethernet communication protocol (col. 4 lines 8-39) and to receive a control command for the multiple air conditioners (col. 2 lines 7-29, col. 4 lines 8-18, col. 6 lines 50-63), and a protocol converter that performs a communication protocol conversion of a signal, whereby the control command input at a remote location can be transmitted to the multiple air conditioners through the Internet network (col. 4 lines 19-39, reference number 52), wherein the central controller transmits signals to and received signals from the protocol converter using the Ethernet communications protocol and the protocol converter converts signals between the Ethernet communications protocol and the air conditioner communications protocol (col. 4 lines 19-39, figure 3 depicts software on workstation 33, therefore the hardware of reference number 33

connects data to the software, figure 3 clearly shows the TCP/IP connection to server 52 and server 52 with OLE connection to N1. Server 52 according to col. 4 lines 27-29 has interface software for conversion to specific HVAC protocol. Therefore, the central controller 33 does transmit signals to and received signals from a protocol converter using the Ethernet communication protocol via 50 and converts the signals between Ethernet protocol to air condition protocol for transmission on N1), (claim 2, 10) wherein the central controller comprises: a key input device that receives the control command associated with the multiple air conditioners (reference number 13, 32, 33), and an output device that outputs control conditions multiple air conditioners operated according to the control command (reference number 32, 33, 60), (claim 3) wherein the central controller comprises: a control program driver that drives a control program accessible by a GUI (Graphic User Interface) for controlling the multiple air conditioners (website and browser, col. 4 line 40 – col. 5 line 9), (claim 5, 13) wherein the central controller comprises a signal storage device that stores the control command received through the Internet network, an Internet data storage device that stores data for accessing the Internet network and IP address data; and a controller that controls the flow of signals transmitted and received through the Internet network, and controls the protocol converter for performing a communication protocol conversion of a signal (reference number 51), (claim 7) a method of operating a central control system for multiple air conditioners, comprising receiving by a central controller a control command for the multiple air conditioners that is transmitted from a remote controller over an Internet network (col. 4 lines 8-18, 40-63), transmitting by the central controller (reference number 33) the control command to a protocol converter (reference number 52) using an Ethernet communications protocol (figure 3 shows 52 received data via 50),

converting by the protocol converter the received control command into a control command based on an air conditioner communication protocol (col. 4 lines 19-39), transmitting the control command based on the air conditioner communication protocol to the multiple air conditioners (col. 5 lines 10-20, col. 6 lines 51-63), performing a control operation of the multiple air conditioners in response to the control command based on the air conditioner communication protocol (col. 3 line 50 – col. 4 line 18), and transmitting data representing control conditions of the multiple air conditioners to the remote controller over the Internet network (col. 4 line 40 – col. 5 line 9), (claim 8) further comprising converting the control condition data into control condition data based on an Ethernet communication protocol prior to transmission over the Internet network (col. 4 lines 19-47). Examiner would like to point out that any reference to specific figures, columns and lines should not be considered limiting in any way, the entire reference is considered to provide disclosure relating to the claimed invention.

5. Claims 7 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Masui et al (U.S. Pub 2003/0140637). The claimed invention reads on Masui et al as follows:

Masui et al discloses (claim 7) a method of operating a central control system for multiple air conditioners, comprising receiving by a central controller (reference number 5) a control command for the multiple air conditioners that is transmitted from a remote controller over an Internet network (paragraph 134, 141, 148, reference number 13), transmitting, by the central controller, the control command to a protocol converter using an Ethernet communication protocol (central processing means 10 receives the command via reference number 13 in Ethernet protocol, the command is then sent to the converter 6, therefore an Ethernet

communications protocol is used), converting by the protocol converter the received control command into a control command based on an air conditioner communication protocol (reference number 6, paragraph 143, 148), transmitting the control command based on the air conditioner communication protocol to the multiple air conditioners (paragraph 143, 148), performing a control operation of the multiple air conditioners in response to the control command based on the air conditioner communication protocol (paragraph 148) and transmitting data representing control conditions of the multiple air conditioners to the remote controller over the Internet network (paragraph 149), (claim 8) further comprising converting the control condition data into control condition data based on an Ethernet communication protocol prior to transmission over the Internet network (reference number 87, figure 16, paragraph 212). Examiner would like to point out that any reference to specific figures, columns and lines should not be considered limiting in any way, the entire reference is considered to provide disclosure relating to the claimed invention.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer (U.S. Pat 6,157,943) in view of Nakamura et al (U.S. Pub 2003/0033392).

Meyer teaches most all of the instant invention as applied to claims 1-3 above. Meyer fails to teach wherein the central controller comprises a control program transmitter that transmits the control program by downloading through an Internet browser by a remote controller in response to a request from the remote controller received through the Internet network.

Nakamura et al teaches an Internet based air conditioner and control system (figure 1) that has a central controller (reference number 1) comprises a control program transmitter that transmits the control program by downloading through an Internet browser by a remote control controller in response to a request from the remote controller received through the Internet network (paragraph 35-38).

Meyer and Nakamura et al are analogous art because they are both related to controlling an air conditioning device.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the internet based program downloading of Nakamura et al in the Internet based HVAC control of Meyer because Nakamura et al teaches a system that allows newly developed control software to be easily installed by someone who is not completely

familiar with personal computers and software. Also that an air conditioner can be provided with only basic controls but can be later provided with custom controls if desired by a customer. Also, control software can be updated whenever a new control method has been developed (paragraph 4, 5).

Response to Arguments

8. Applicant's arguments filed 6/20/05 have been fully considered but they are not persuasive.

Applicant argues that Takai does not disclose that the personal computer connects to the converter unit 200 using an Ethernet communications protocol or that the converter unit 200 converts signals between an Ethernet communications protocol and an air conditioner communications protocol. Based upon the above arguments and claim amendments the Examiner has slightly modified the position relating to the application of the art reference. The Examiner considers the protocol converter to consist of not only reference numbers 200 and 202 as previously stated, but the protocol converter consists of the web browser found in reference number 100, the engine 120 described in paragraph 31, the device driver 130 which also provides a conversion function along with the elements of reference number 200 which make up the "protocol converter". Each of these elements works in combination to perform the conversion from an Ethernet communication protocol from the Internet to the equipment specific air conditioner communication protocol. Therefore the rejection is maintained.

Applicants argue that workstation 33 does not transmit signals to and from a converter using Ethernet communications protocol. Examiner considers workstation 33 to read on the central controller and considers the software server 52 to read on the converter. It is clear that

signals from the TCP/IP network, known Ethernet communication protocol, are routed to the server 52, inherently through the hardware of workstation 33. Therefore, workstation 33 does transmit signals to and from the converter using an Ethernet communications protocol. Examiner also points to col. 4 lines 27-29 which state that the software of figure 3 also converts commands into proprietary HVAC protocols as applied to the other limitations argued.

Applicant argues Masui et al. The Examiner has withdrawn the rejection of claims 1-3 by Masui et al however the arguments for claim 7 were not persuasive. Central controller 5 receives the command in an Ethernet protocol. Therefore, an Ether net protocol is "used" as required by the claim language.

The arguments directed to the rejection under 103, specifically to Meyer are not persuasive as addressed above, therefore the rejection is maintained.

Regarding new claims 9-15, arguments not persuasive, claims stand rejected as presented above.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection (same art, modified application) presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul L. Rodriguez whose telephone number is (571) 272-3753. The examiner can normally be reached on 6:00 - 4:30 T-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P. Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Paul L Rodriguez
Primary Examiner
Art Unit 2125

PLR
7/27/05